

REMARKS/ARGUMENTS

Claims 1, 2, 4, 5, 9-18, and 42-61 remain in this application.

Claims 2 and 9 have been cancelled.

Claims 1, 4, 42, 49, and 57 have been amended. Support for “a humidity equilibrated” array in independent claims 1, 42, 49, and 57 can be found, for example, at page 13, lines 8-11 and is discussed further below. Support for other amendments to claim 1 are found in now cancelled original dependent claims 2 and 9.

Claims 3, 6-8, and 27 were previously withdrawn.

Applicant acknowledges the Examiner’s acceptance of the drawings as filed.

Applicant acknowledges the Examiner’s withdrawal of the §103 claim rejections of *Yamazaki* in view of *Umek* and the non-finality of the present action in view of the new grounds of rejection.

The cardinal numbered paragraphs below correspond to those in the office action.

§ 112 Rejections

5. The Examiner has rejected claims 1, 42, 49, and 57 under 35 U.S.C. § 112, first paragraph, as allegedly being indefinite for failing to comply with the written description. The rejection is respectfully traversed.

Specifically, on further review Applicant’s representative confirms that the previous amendment of “providing a dried array” was not previously disclosed. Applicant’s corrective amendment of “providing a humidity equilibrated array” is supported in the application as filed, see for example, page 13, lines 8-11. Although not *ipis verbis* the context makes clear that an equilibrated array results from the described treatment. The humidity equilibrated array is believed to provide for lateral redistribution of lipid molecules in the supported membrane. In view of Applicant’s remedial amendment mentioned above the rejection under 35 U.S.C. § 112, first paragraph, is believed to be overcome, or alternatively is moot, and should be removed.

§ 102 Rejections

7. The Examiner has rejected claims 1, 2, 4, 10-16, 18, 52, 57-58, 60, and 61 under 35 U.S.C. §102(b) as allegedly being anticipated by U.S. Patent Publication No. US-2003-0124572 (*Umek*). The rejection is respectfully traversed.

Umek mentions an assay electrode having an immobilized biological layer for luminescence measurements. *Umek* does not mention that the lipid membranes that are deposited in microspots. Additionally, *Umek* does not mention a microporous support.

Applicant respectfully disagrees with the examiner's conclusion that "doped" is not defined in the specification. On the contrary, "doped lipid" is defined by way of examples in the application as filed, at for example, page 13, paragraph [0046], i.e., "DLPC doped with GM1 and DLPC doped with GT1b" refers to, e.g., a dilaurylphosphatidylcholine (DLPC) and ganglioside (GM1 or GT1b) where selective and differential toxin binding is demonstrated. In paragraph [0029] on page 9, of the specification Applicant states that "the toxin-binding receptor may include a ganglioside, such as GM1 and GT1b, or a ceramide such as Gal(β)-ceramide, or a cholesterol, or a cerebroside. Additional moieties, such as receptors, are listed in Table 1 on page 8. Amended claim 1 now recites that the doped lipid contains a toxin-binding moiety. Additionally, *Umek*'s mention of cross-linking to improve stability teaches directly away from the present independent claims where cross-linking is not used, but instead the equilibrated array takes advantage of the lipid membrane's lateral fluidity (see paragraph [0040]). Applicant respectfully submits that the amendment to claim 1 reciting "equilibrated array" and "the doped lipid contains a toxin-binding moiety" is believed to overcome, or alternatively renders moot, the above the rejection under 35 U.S.C. § 102, and should be removed.

§ 103 Rejections

18. The Examiner has rejected claim 5 under 35 U.S.C. § 103 as allegedly being unpatentable over U.S. Patent Publication No. US-2003-0124572 (*Umek*) in view of U.S. Patent No. 5,750,103 (*Cherksey*). The rejection is respectfully traversed.

The above *Umek* remarks are incorporated here by reference. In the context of cell transplantation and normal cell development, *Cherksey* mentions (by reference to *Notter*) that CNS surface gangliosides are induced, which bind tetanus toxin. The combination of *Cherksey* with *Umek*'s electrode assay doesn't cure the deficiency in *Umek* and therefore doesn't render claim 5 obvious. Additionally, the combination is believed to be improper since it seeks to combine a generic teaching of cell biology (*Cherksey*) with the assay electrode and method of *Umek*. Thus, it would not have been obvious to combine the references since the resulting combination would not produce an array having, for example, the advantaged high specificity and lateral fluidity. Additionally, the teachings of *Cherksey* do not cure the abovementioned deficiencies of the primary reference.

19. The Examiner has rejected claim 17 under 35 U.S.C. § 103 as allegedly being unpatentable over U.S. Patent Publication No. US-2003-0124572 (*Umek*) in view of U.S. Patent No. 5,004,543 (*Pluskal*). The rejection is respectfully traversed.

The above *Umek* remarks are incorporated here by reference. *Pluskal* mentions charged-hydrophobic microporous membranes. However, *Pluskal*'s membranes are believed to be suitable for macromolecular blotting and filtration applications but not suitable as porous substrates. Thus, it would not have been obvious to combine the references since the resulting combination would produce, for example, a dysfunctional (i.e., leaky and inconsistent) membrane support. Additionally, the teachings of *Pluskal* do not cure the abovementioned deficiencies of the primary reference.

20. The Examiner has rejected claims 9, 42-50, 54, and 56 under 35 U.S.C. § 103 as allegedly being unpatentable over U.S. Patent Publication No. US-2003-0124572 (*Umek*) in view of U.S. Patent Publication No. US-2002-0094544 (*Fang*). The rejection is respectfully traversed.

The above *Umek* remarks are incorporated here by reference. The teachings of *Fang* do not cure the abovementioned deficiencies of the primary reference.

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27. The Examiner has rejected claims 51 and 59 under 35 U.S.C. § 103 as allegedly being unpatentable over U.S. Patent Publication No. US-2003-0124572 (*Umek*) in view of U.S. Patent No. 4,933,285 (*Patton*). The rejection is respectfully traversed.

The above *Umek* remarks are incorporated here by reference. The teachings of *Patton* do not cure the abovementioned deficiencies of the primary reference.

28. The Examiner has rejected claims 53 and 55 under 35 U.S.C. § 103 as allegedly being unpatentable over U.S. Patent Publication No. US-2003-0124572 (*Umek*) in view of U.S. Patent Publication No. US-2002-0094544 (*Fang*) as applied to claims 42 and 49 above, and further in view of U.S. Patent No. 4,933,285 (*Patton*). The rejection is respectfully traversed.

The above *Umek*, *Fang*, and *Patton* remarks are incorporated here by reference. The teachings of *Patton* do not cure the abovementioned deficiencies of the primary and secondary references.

For at least the reasons discussed above, Applicant's representative respectfully submits that the claims are not obvious in view of the cited documents in any combination, or alternatively are moot in view of Applicant's amendments. Accordingly, Applicant respectfully requests reconsideration and withdrawal of all the above obviousness rejections.

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Conclusion

Based upon the above amendments, remarks, and papers of records, applicant believes the pending claims of the above-captioned application are in allowable form and patentable over the prior art of record. Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

Applicant believes that a three month extension of time is necessary to make this Reply timely. Should applicant be in error, applicant respectfully requests that the Office grant such time extension pursuant to 37 C.F.R. § 1.136(a) as necessary to make this Reply timely, and hereby authorizes the Office to charge any necessary fee or surcharge with respect to said time extension to the deposit account of the undersigned firm of attorneys, Deposit Account 03-3325.

Please direct any questions or comments to John L. Haack at (607) 974-3673.

Respectfully submitted,

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